GEOG 5803 – Seminar in Geomatics
Course Outline
Winter 2025
Department of Geography and Environmental Studies

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Office Hours:Scott: TBD in Loeb A301B or by request
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Course calendar: See Brightspace / your Carleton Central schedule for details.

Course description: This class aims to provide a seminar venue in which students can explore contemporary issues and/or algorithms in Geomatics (broadly defined), ideally to help them develop their thesis proposal or methods. In addition, presentations are given by departmental faculty with strong Geomatics interests, about their research programs. The course topics vary widely according to the student interests in any given year, but typically include at least these broad themes:

- **Issues around the use of and access to spatial data and algorithms,**
- **Advanced sensors and calibration or correction,**
- **Recent developments in spatial data analysis techniques, including spectral, spatial, temporal, semantic and/or uncertainty analysis**
- **Interfacing environmental models with spatial databases**
- **Spatial data management, interoperability and distributed computing**
- **Application of geomatics in the social sciences and humanities**
- **Indigenous mapping, geomatics and representations of space, place and geography**

The exact distribution of topics varies as a function of the guest speakers available, and the backgrounds and interests of the students that enrol. Potential participants are welcome to contact us beforehand to discuss this further, and during the first class meeting we will all discuss your interests and possible influences on the course schedule.

Evaluation:

Student assessment will be split as follows:
- seminar participation (10%)
- project proposal (5%)
- seminar (& possibly practical exercise) presentation (35%)
- responses for faculty / guest seminars (5%)
- final project presentation (5%)
- final project take-home exam assignment (40%).

Standing in a course is determined by the course instructor and is subject to the approval of the Faculty Dean. This means that grades submitted by the instructor may be subject to revision. No grades are final until they have been approved by the dean.

Course Format and Timing

Because we tailor the course to the number of students and their interests each year, exact details are subject to change as we develop the detailed plan with students in the first few weeks of term.

The seminars will explore the major course themes through presentation of papers, possibly short practical exercises, and discussion. We (Peter, Scott, guests, and students) will take turns leading the discussions each week. The schedule for student-led discussions will be agreed upon over the first two weeks, including signing up for specific seminar timing between weeks 8 and 12 of the course. The dates will then be posted in Brightspace. Your seminar can be broken into discussion portion and a practical session, if desired – this will be negotiated as you develop your topic.

Seminar responses are due one week following each seminar presented by a faculty member / guest speaker. They will not be graded, but completing them counts for 5% of your overall grade.

The final project will ideally contribute towards your own thesis research / academic interests. It can directly stem from the discussion topics in the seminar, or we can agree on other topics within the themes of spatial data analysis and remote sensing. Project proposals will be due, and discussed, in Week 6 (February 10). The final projects are due Week 13 (April 7) in terms of being able to present your work to your students, but that will be followed by a take-home exam assignment to report on your work, due April 26**.**

We encourage students to engage in open communication so that we can all help each other out. Please do not hesitate to contact the instructors if anything is preventing you from participating properly in the course as designed.

Readings:

Readings / a reading list will be distributed for each topic. Students are encouraged to submit readings for consideration when they come across interesting candidates. Please consult with Peter or Scott for suggestions on topics you are interested in for further study, or that you want to use to refresh yourself to better participate in the seminars.

Costs:

Students are not required to purchase textbooks or other learning materials for this course.

Practical work:

Students generally provide their own computer for the practical work in this class, however if you need other computing resources, see below. It is assumed that all participants are already experienced with at least one spatial data analysis package. If you have not already completed a GIS or remote sensing course, please contact us before registering in this course.

Except for your project, if/when there are practical exercises in this course, they will be informal and based on the topics being considered in the seminar. There will not be any graded practical assignments except for the individual projects. If required, any practical work for this course that requires specialized software (e.g. ArcGIS, TerrSet, PCI etc.) can be performed in a DGES computing lab, or potentially using the CU Desktop virtual access system (https://carleton.ca/cudesktop/). For convenience, a virtual machine configured with popular open-source geospatial tools will also be made available. Use of this virtual machine requires VirtualBox virtualization software (https://www.virtualbox.org/) but that is available for free on Windows, macOS, or Linux platforms.

Use of social media (Discord, other chat services, etc.):

If someone in the class sets up a Discord server or other opportunity for class members to chat and discuss class content, please make sure that everyone in the class is aware of the arrangements. If you are not familiar with the platform, please ask your classmates about it. The instructors will not be part of any conversations using such channels, cannot provide support for such platforms, and nothing said there should be considered official communications about the class. All official communications will take place in person and on Brightspace.

PLAGIARISM:

The University Academic Integrity Policy defines plagiarism as "*presenting, whether intentionally or not, the ideas, expression of ideas or work of others as one's own.*" This includes reproducing or paraphrasing portions of someone else's published or unpublished material, regardless of the source, and presenting these as one's own without proper citation or reference to the original source. Examples of sources from which the ideas, expressions of ideas or works of others may be drawn from include but are not limited to: books, articles, papers, literary compositions and phrases, performance compositions, chemical compounds, artworks, laboratory reports, research results, calculations and the results of calculations,

diagrams, constructions, computer reports, computer code/software, material on the internet and/or conversations.

Examples of plagiarism include, but are not limited to:

- any submission prepared in whole or in part, by someone else, including the unauthorized use of generative AI tools (e.g., ChatGPT);
- using ideas or direct, verbatim quotations, paraphrased material, algorithms, formulae, scientific or mathematical concepts, or ideas without appropriate acknowledgment in any academic assignment;
- using another's data or research findings without appropriate acknowledgement;
- submitting a computer program developed in whole or in part by someone else, with or without modifications, as one's own; and
- failing to acknowledge sources through the use of proper citations when using another's work and/or failing to use quotations marks.

Plagiarism is a serious offence that cannot be resolved directly by the course's instructor. The Associate Dean of the Faculty conducts a rigorous investigation, including an interview with the student, when an instructor suspects a piece of work has been plagiarized. Penalties are not trivial. They can include a final grade of "F" for the course.

Submission of previously submitted work: While submitting substantially the same piece of work more than once for academic credit is not specifically prohibited by Carleton's Academic Integrity Policy, we require that if you are considering submitting something for this course that has already been submitted for another course, you discuss it with us and get our permission first.

Statement on Student Mental Health:

As a student you may experience a range of mental health challenges that significantly impact your academic success and overall well-being. If you need help, please speak to someone. There are numerous resources available both on- and off-campus to support you. For more information, please consult https://wellness.carleton.ca/

Emergency Resources (on and off campus)

- Suicide Crisis Helpline: call or text 9-8-8, 24 hours a day, 7 days a week.
- For immediate danger or urgent medical support: call 9-1-1

Carleton Resources

- Mental Health and Wellbeing: https://carleton.ca/wellness/
- Health & Counselling Services: https://carleton.ca/health/
- Paul Menton Centre: https://carleton.ca/pmc/

- Academic Advising Centre (AAC): https://carleton.ca/academicadvising/
- Centre for Student Academic Support (CSAS): https://carleton.ca/csas/
- Equity & Inclusivity Communities: https://carleton.ca/equity/

Off Campus Resources

- Distress Centre of Ottawa and Region: call 613-238-3311, text 343-306-5550, or connect online at https://www.dcottawa.on.ca/
- Mental Health Crisis Service: call 613-722-6914 or toll-free 1-866-996-0991, or connect online at http://www.crisisline.ca/
- Empower Me Counselling Service: call 1-844-741-6389 or connect online at https://students.carleton.ca/services/empower-me-counselling-services/
- Good2Talk: call 1-866-925-5454 or connect online at https://good2talk.ca/
- The Walk-In Counselling Clinic: for online or on-site service https://walkincounselling.com

Requests for Academic Accommodations:

Carleton is committed to providing academic accessibility for all individuals. You may need special arrangements to meet your academic obligations during the term. The accommodation request processes, including information about the *Academic Consideration Policy for Students in Medical and Other Extenuating Circumstances*, are outlined on the Academic Accommodations website (students.carleton.ca/course-outline).